

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US97/23125

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(6) :H04K 1/00, H04L 9/00

US CL :380/23, 25, 30; 235/382

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 380/23, 25, 30, 24, 4, 49, 28, 21; 235/382, 380

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,373,561 A (HABER et al.) 13 December 1994	1-82
A	US 5,548,106 A (LIANG et al.) 20 August 1996	1-82
A	US 5,524,052 A (AUGUSTINE et al.) 04 June 1996	1-82
A	US 5,455,863 A (BROWN et al.) 03 October 1995	1-82
A	US 5,440,633 A (AUGUSTINE et al.) 08 August 1995	1-82
A	US 5,416,842 A (AZIZ) 16 May 1995	1-82
A, P	Fancher, "In your Pocket Smartcards", IEEE Spectrum February 1997, pp 47-53	1-82



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:	*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
*A* document defining the general state of the art which is not considered to be of particular relevance	*X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
*E* earlier document published on or after the international filing date	*Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
*I* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	*A* document member of the same patent family
*C* document referring to an oral disclosure, use, exhibition or other means	
*P* document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

23 MARCH 1998

Date of mailing of the international search report

05 MAY 1998

Name and mailing address of the ISA/US  
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## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X, E	US 5,724,423 A (KHELLO) 03 March 1998, column 6, line 31 - column 16 line 61.	1-82
A, P	US 5,623,637 A (JONES, et al.) 22 April 1997	1-82